

$\langle 400 \rangle$ 1

Tyr Ser Ser Ser Val Ile Phe Val Leu Thr Ile Gly Lys Gly Val Tyr

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195	200	205
Ala Phe Thr Leu Asp Pro Met Tyr Gly Glu Phe Val Leu Thr Ser Glu		
210	225	220
Lys Ile Gln Ile Pro Lys Ala Gly Lys Ile Tyr Ser Phe Asn Glu Gly		
225	230	235
Asn Tyr Lys Met Trp Asp Asp Lys Leu Lys Lys Tyr Met Asp Asp Leu		
245	250	255
Lys Glu Pro Gly Glu Ser Gln Lys Pro Tyr Ser Ser Arg Tyr Ile Gly		
260	265	270
Ser Leu Val Gly Asp Phe His Arg Thr Leu Leu Tyr Gly Gly Ile Tyr		
275	280	285
Gly Tyr Pro Arg Asp Ala Lys Ser Lys Asn Gly Lys Leu Arg Leu Leu		
290	295	300
Tyr Glu Cys Ala Pro Met Ser Phe Ile Val Glu Gln Ala Gly Gly Lys		
305	310	315
Gly Ser Asp Gly His Gln Arg Ile Leu Asp Ile Gln Pro Thr Glu Ile		
325	330	335
His Gln Arg Val Pro Leu Tyr Ile Gly Ser Val Glu Glu Val Glu Lys		
340	345	350
Leu Glu Lys Tyr Leu Ala		

355

<210> 2

<211> 1074

<212> DNA

<213> Spinacia oleracea L

<220> Fructose-1,6-bisphosphatase

<223>

<400> 2

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accatcggtt tttctagcat ttcattggct tgtaaacaaa ttgcttcctt ggttcaacga	180
gctgggtatt ctaacttgac tggaaattcaa ggtgctgtca atatccaagg agaggatcag	240
aagaaacttg atgttgtctc caatgagggtg ttttcgagct gcttgagatc gagtggaaga	300
acaggaataa tagcatcaga agaagaggat gtaccagtgg cagtggaga gagttactct	360
ggaaactata ttgttgtgtt tgatccactt gatgggttcat ccaacattga tgcagctgtc	420
tccactggtt ccatctttgg catttatagc cctaacgatg agtgcatgtg tgactctgat	480
cacgacgatg agtcacagct aagtgcagaa gaacagaggt gtgtagttaa tgtatgtcaa	540
ccaggggata acctattagc agcagggtat tgtatgtact caagctctgt tatcttcgta	600
cttacaattg gtaaagggtg gtatgcattc acattagatc caatgtatgg tgaattcgta	660
ctcacttcag agaaaatcca aatcccaaaa gctgggaaga tctattcatt caatgaaggt	720

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aactacaaaa tgtgggatga taaattgaag aagtacatgg atgatcttaa agagccagga 780
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<210> 3

<211> 333

<212> PRT

<213> Spinacia oleracea L

<220> Sedoheptulose-1,7-bisphosphatase

<223>

<400> 3

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 35 40 45
 Lys Val Arg Thr Ala Ser Cys Gly Gly Thr Gln Cys Val Asn Thr Phe
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 Gly Asp Glu Gln Leu Ala Ile Asp Val Leu Ala Asp Lys Leu Leu Phe
 65 70 75 80
 Glu Ala Leu Asn Tyr Ser His Phe Cys Lys Tyr Ala Cys Ser Glu Glu
 85 90 95
 Leu Pro Glu Leu Gln Asp Met Gly Gly Pro Val Asp Gly Gly Phe Ser
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 Val Ala Phe Asp Pro Leu Asp Gly Ser Ser Ile Val Asp Thr Asn Phe
 115 120 125
 Ser Val Gly Thr Ile Phe Gly Val Trp Pro Gly Asp Lys Leu Thr Gly
 130 135 140
 Val Thr Gly Arg Asp Gln Val Ala Ala Ala Met Gly Ile Tyr Gly Pro
 145 150 155 160
 Arg Thr Thr Tyr Val Leu Ala Leu Lys Asp Tyr Pro Gly Thr His Glu
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 Phe Leu Leu Leu Asp Glu Gly Lys Trp Gln His Val Lys Glu Thr Thr
 180 185 190
 Glu Ile Asn Glu Gly Lys Leu Phe Cys Pro Gly Asn Leu Arg Ala Thr
 195 200 205
 Ser Asp Asn Ala Asp Tyr Ala Lys Leu Ile Gln Tyr Tyr Ile Lys Glu

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210	215	220
Lys Tyr Thr Leu Arg Tyr Thr Gly Gly Met Val Pro Asp Val Asn Gln		
225	230	235
Ile Ile Val Lys Glu Lys Gly Ile Phe Thr Asn Val Ile Ser Pro Thr		240
	245	250
Ala Lys Ala Lys Leu Arg Leu Leu Phe Glu Val Ala Pro Leu Gly Phe		255
	260	265
Leu Ile Glu Lys Ala Gly Gly His Ser Ser Glu Gly Thr Lys Ser Val		270
	275	280
Leu Asp Ile Glu Val Lys Asn Leu Asp Asp Arg Thr Gln Val Ala Tyr		285
	290	295
Gly Ser Leu Asn Glu Ile Ile Arg Phe Glu Lys Thr Leu Tyr Gly Ser		300
305	310	315
Ser Arg Leu Glu Glu Pro Val Pro Val Gly Ala Ala Ala		320
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<210> 4

<211> 999

<212> DNA

<213> Spinacia oleracea L

<220> Sedoheptulose-1,7-bisphosphatase

<223>

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gaagcattaa ggaccattgg ctttaaagtg aggactgctt catgtggatgg aactcaatgt	180
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caagttgctt acggctcctt gaacgagatc atccgatitg agaagacact atacggatcc	960
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<210> 5

<211> 356

<212> PRT

<213> Synechococcus

<220> fructose-1,6-bisphosphatase/sedoheptulose-1,7-bisphosphatase from Synechococcus PCC 7942

<223>

<400> 5

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      20              25              30
Asp Arg Val Ala Val Glu Ala Met Arg Val Arg Met Asn Gln Val Glu
      35              40              45
Met Leu Gly Arg Ile Val Ile Gly Glu Gly Glu Arg Asp Glu Ala Pro
      50              55              60
Met Leu Tyr Ile Gly Glu Glu Val Gly Ile Tyr Arg Asp Ala Asp Lys
      65              70              75              80
Arg Ala Gly Val Pro Ala Gly Lys Leu Val Glu Ile Asp Ile Ala Val
      85              90              95
Asp Pro Cys Glu Gly Thr Asn Leu Cys Ala Tyr Gly Gln Pro Gly Ser
      100             105             110
Met Ala Val Leu Ala Ile Ser Glu Lys Gly Gly Leu Phe Ala Ala Pro
      115             120             125
Asp Phe Tyr Met Lys Lys Leu Ala Ala Pro Pro Ala Ala Lys Gly Lys
      130             135             140
Glu Thr Ser Ile Lys Ser Ala Thr Glu Asn Leu Lys Ile Leu Ser Glu
      145             150             155             160
Cys Leu Asp Arg Ala Ile Asp Glu Leu Val Val Val Val Met Asp Arg
      165             170             175
Pro Arg His Lys Glu Leu Ile Gln Glu Ile Arg Gln Ala Gly Ala Arg
      180             185             190
Val Arg Leu Ile Ser Asp Gly Asp Val Ser Ala Ala Ile Ser Cys Gly
      195             200             205
Phe Ala Gly Thr Asn Thr His Ala Leu Met Gly Ile Gly Ala Ala Pro
      210             215             220
Glu Gly Val Ile Ser Ala Ala Ala Met Arg Cys Leu Gly Gly His Phe
      225             230             235             240
Gln Gly Gln Leu Ile Tyr Asp Pro Glu Val Val Lys Thr Gly Leu Ile
      245             250             255
Gly Glu Ser Arg Glu Ser Asn Ile Ala Arg Leu Gln Glu Met Gly Ile

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260	265	270
Thr Asp Pro Asp Arg Val Tyr Asp Ala Asn Glu Leu Ala Ser Gly Gln		
275	280	285
Glu Val Leu Phe Ala Ala Cys Gly Ile Thr Pro Gly Leu Leu Met Glu		
290	295	300
Gly Val Arg Phe Phe Lys Gly Gly Ala Arg Thr Gln Ser Leu Val Ile		
305	310	315
Ser Ser Gln Ser Arg Thr Ala Arg Phe Val Asp Thr Val His Met Phe		
325	330	335
Asp Asp Val Lys Thr Val Ser Leu Pro Leu Ile Pro Asp Pro Lys Trp		
340	345	350
Arg Pro Glu Arg		
355		

<210> 6

<211> 1350

<212> DNA

<213> Synechococcus

<220> fructose-1,6-bisphosphatase/sedoheptulose-1,7-bisphosphatase from Synechococcus
PCC. 7942

<400> 6

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cgaaaagaat gaagccgac gcgtcgcagt agaagcgaig cgggtgcgga tgaaccaagt	240
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<210> 7

<211> 133

<212> DNA

<213> Nicotiana tabacum

<223> psbA promoter

<400> 7

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ttaaataaac caa	133

<210> 8

<211> 159

<212> DNA

<213> Nicotiana tabacum

<223> rps16 terminator

<400> 8

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<210> 9

<211> 805

<212> DNA

<213> Escherichia coli

<223> aadA

<400> 9

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<210> 10

<211> 4591

<212> DNA

<213> Artificial sequence

<223> pLD6

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<210> 11

<211> 51

<212> DNA

<213> Artificial sequence

<223> multi-cloning regions

<400> 11

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<210> 12

<211> 142

<212> DNA

<213> Nicotiana tabacum

<223> rrn promoter

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<210> 13

<211> 390

<212> DNA

<213> Nicotiana tabacum

<223> psbA terminator

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<210> 14

<211> 5581

<212> DNA

<213> Artificial sequence

<223> pLD200

<400> 14

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